

# IP Address Management

IP Address Management (tbIPAM) refers to a method of IP scanning, IP address tracking and managing the information associated with a network's Internet Protocol address space and tbIPAM system. With tbIPAM software and IP tools, administrators can ensure that the inventory of assignable IP addresses remains current and sufficient with advanced IP tools and tbIPAM services. tbIPAM simplifies and automates the administration of many tasks involved in IP space management, including writing DNS records and configuring DHCP settings. Additional functionality, such as controlling reservations in DHCP as well as other data aggregation and reporting capability, is also common with network tbIPAM.

## Why is tbIPAM necessary for an organization?

There are five main reasons why IPAM server is necessary for an organization:

- Capacity Planning
- Transition to IPv6
- Management of Resources
- Turning data into information
- The needed information

tbIPAM in networking is the management of DNS and DHCP servers along with the network IP address space. tbIPAM automatically discovers tbIPAM network's IP infrastructure, IP address assignments, IP subnets, and can perform IP address resolutions with DNS servers in the IPAM network.

## Capacity Planning

If you're unable to track your address space accurately, then you could probably run out of IP addresses. This would forestall you from simply adding new subscribers and would limit your ability to grow your business. The more IP's you have, the more management of IP is required, and the better will be the growth of your organization.

## Features:-

- IPv4/IPv6 IP address management
- Section / Subnet management
- Automatic free space display for subnets
- Visual subnet display
- Automatic subnet scanning / IP status checks
- PowerDNS integration
- NAT support
- RACK management
- Domain authentication (AD, LDAP, Radius)
- Per-group section/subnet permissions
- Device / device types management
- RIPE subnets import
- XLS / CVS subnets import
- IP request module
- REST API
- Locations module
- VLAN management
- VRF management
- IPv4 / IPv6 calculator
- IP database search
- E-mail notifications
- Custom fields support
- Translations
- Changelogs

## Transition to IPv6

tbIPAM has become important since the introduction of the new IPv6. An IPv6 uses a 128-bit address, whereas IPv4 follows a 32-bit address scheme. The added complexity of IPv6 means that while an administrator may have once been able to remember an IPv4 address, an tbIPAM tool is necessary to track all the IPv6 resources. Also, a tbIPAM solution allows you to catalogue your IPv4 network resources, as well as IPv6 address space.

## Management of Resources

A system for organizing IP address space is important because there are only a finite number of IP resources available and these cost money. If you have no tbIPAM network system to track and manage your IP addresses, issues like IP conflicts will cause serious problems for users. tbIPAM solutions makes managing the available resources a piece of cake job.

## Turn Data into Information

tbIP Address Management solution has the ability to collect data associated with devices, networks, services and then convert them into a clear picture. tbIPAM allows users to associate information for all objects in a database so administrators can search, sort and export based on any data.

## The Needed Information

Network administrators are interested in the IP address space and the resource assigned to each IP address. With tbIPAM, an administrator can get the meta-information related to a resource such as hostname, device type, physical location, etc., from his own location with leisure. Alerts are sent at necessary times and reports with needed information can also be generated easily.

**Reporting:** Report generation and alerting is a major aspect to be expected in a tbIPAM solution.

**Performance:** Capability to handle large IP pools or manage busy operations.

**IPv6 support:** No matter where you are in the transition, future-proofing is key.

**Historical data:** Critical when operating in regions with lawful intercept requirements.

## IPv4 and IPv6 Address Management

tbIPAM actively identifies and manages IPv4 and IPv6 addresses and uses active scanning to discover and track subnets and associated address blocks. Finding an available address is as simple as navigating to a target subnet, viewing, and selecting an available IP address. Also, view transient IP addresses to easily identify orphaned IP addresses and reclaim them.

## Integrated DHCP and DNS Configuration Management

tbIPAM works with your multi-vendor DHCP and DNS services—no additional proprietary software or hardware is required for management. All DHCP and DNS changes you make in IPAM are seamlessly propagated to the respective servers, enabling teams to easily find and configure IP addresses from a single management console.

## Monitoring and Alerting

tbIPAM automatically and proactively detects IP address problems that can eventually lead to network disruption. You can continuously monitor and improve IP performance with proactive detection of IP address problems, notification of IP address changes in the network, and access to utilization data on essential metrics for planning. Active monitoring and alerting helps eliminate network downtime due to IP conflicts and non-availability of IP addresses due to full subnets.

## Role-based Administration

tbIPAM lets you independently manage your DHCP, DNS, and IP subnets. Work independently of other admin teams with IPAM, allowing each team to manage their own subnets, address blocks, and DHCP and DNS services without impacting each other. Role-based administration helps maintain security without limiting delegation of IP address management activities.

## IP Conflict Detection Resource

Quickly tend to IP conflict issues and avert network downtime. tbIPAM alerts you every time there is an IP conflict on the network. Integration with User Device Tracker (optional) lays out detailed device and switch port information that aids in troubleshooting. Historical data on IP address usage reveals which device had the IP first. Using the remote shutdown option, you can immediately cut off network connectivity of the problematic device.

## Integrated End-Point Tracking

tbIPAM integrates with UDT to provide a single view of IP addresses and corresponding end-point connection/location details. This enables improved troubleshooting and enhanced network access protection with port shutdown. Monitor suspicious activity in the network and track down rogue devices that are a threat to your network. When both tbIPAM and UDT are installed, tbIPAM displays corresponding switch port details and user information—all within the same integrated view. This lets you quickly track down and resolve network issues before they cause a major problem.

## Global IP Address Search

tbIPAM tracks down a specific IP address on your network in just seconds by performing a global search. You can quickly and easily access IP address data to search for available IPs and meet IP requests.

## Subnet Allocation Wizard

You can specify supernet and subnet sizes so tbIPAM can automatically allocate the correctly-sized subnet. Subnet Allocation Wizard helps you efficiently organize your managed IP address space into subnets that are sized appropriately for the extent and traffic of your network. With its real-time subnet calculator, the IPAM Subnet Allocation Wizard allows you to quickly determine the most efficient way to subdivide any supernet.

## Active Directory Integration

Leverage your existing Active Directory user accounts to allow users to log in to tbIPAM. You save time on configuring and creating separate logins for tbIPAM.

## Automated IPv4 Subnet Discovery

tbIPAM helps you create an up-to date IP address map of your network by directly pulling data from router configurations and connected machines. The Automatic Subnet Discovery uses SNMP credentials for polling devices and discovers subnets from the routing table of the router.

## Automated IP Address Scanning

tbIPAM allows you to easily set up scheduled, automatic scanning for both your IPv4 and IPv6 address space. Reduce manual errors and ensure that your network's IP address information is always up to date. Scheduled IP address scanning also helps you avoid IP address conflicts by recognizing transient IP status.

## DHCP Split Scope Functionality

IPAM gives you quick and easy DHCP split scope configuration for high-availability and load-balancing of your critical DHCP services. tbIPAM allows you to quickly configure your DHCP split scope with a simple two-step wizard. Additionally, the centralized Web console offers visibility into related scopes and scope distribution across subnets.

## Advanced DHCP Configuration Options

tbIPAM allows you to directly configure standard DHCP options for your multi-vendor DHCP servers without having to log in to the DHCP server or deal with complicated CLI commands. The changes are automatically synced to the respective server, which saves you a lot of time on configuration and troubleshooting issues caused by human errors. tbIPAM offers DHCP configuration support for remote-boot devices.

## DNS Record Mismatch Detection, A & PTR Record Pairing

tbIPAM automatically detects and points out any mismatch in DNS forward and reverse record entries. Any disparity in the record is highlighted for easy identification so that it can be quickly fixed. Additionally, you can automatically create DNS PTR records when registering new devices into DNS zones. This helps ensure that there are no DNS record mismatches and also the possibility of DNS issues due to human error.

## Detailed Event Recording

tbIPAM automatically records all IP-related events and keeps a detailed activity log showing what changed and when for quick and easy troubleshooting. You can greatly

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## Certificates:-

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